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CLAIMS

[Claim(s)]

[Claim 1]In a distribution method of real time contents made refreshable on a terminal of a user by whom digital contents which need the real time nature of music, an animation, etc. were connected to a network, Contents enciphered with a predetermined encryption key are delivered to the user side, A distribution method of real time contents a user's acquiring a decode key corresponding to said encryption key through a network, decoding and reproducing said contents using said decode key, and deleting contents and a decode key after this decoding from on a user's terminal when using said contents.

[Claim 2]Deletion of contents after decoding and reproduction of enciphered contents, and decoding, A distribution method of the real time contents according to claim 1 characterized by deleting a decode key after performing a constant rate of data in these contents continuously as a unit and completing decoding and reproduction to all the data of contents.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]When this invention sells digital contents, such as music and an animation, on a network, it relates to a suitable distribution method.

[0002]

[Description of the Prior Art]Although there is a method of delivering to a user's terminal via a network like the Internet as it is, making it play directly, and providing contents data as a method of selling the digital contents which need the real time nature of music, an animation, etc., Contents data was not enough sent by change of the zone of a circuit, etc., but playback of music, an animation, etc. might break off. When the size of contents was large, while a lot of data will cover a long time, and will flow continuously on a network and big load was applied to the network, there was also a problem that the telex rate proportional to the regeneration time of contents had to be paid.

[0003]As a method of solving the problem mentioned above, the data compression of the contents is carried out, and this is delivered to the terminal by the side of a user via a network, and is once accumulated.

Then, although there is the method of thawing and reproducing on a terminal, another problem that the accumulated contents will be able to be reproduced and circulated

unjustly occurs.

[0004]Typical methods for coping with this problem include the method of embedding a user's etc. information by digital watermarking etc. to contents, the method of using the structure which enciphers contents and needs dedicated software and specific key information for that reproduction, etc.

[0005]

[Problem(s) to be Solved by the Invention]However, in the former method, the effect which controls unjust duplicate and circulation of contents could not be prevented to the completeness of a certain thing, and there was a problem of also spoiling the convenience of the just user of contents, by the latter method.

[0006]For example, in a certain composition data sales company, the data compression of the contents is enciphered and carried out with the encryption key for every user, Delivering this to the terminal by the side of a user via the network, the user downloaded the decode key which becomes an encryption key for every user, and a pair at the time of user registration, and has taken the method of reproducing, while decoding the thawed data by the key and exclusive player (software).

[0007]Although problems, like reproduction breaks off could be solved and unjust duplicate and circulation of contents could be prevented in this method, even if it was a just user, there was a problem that it spoiled a user's convenience that reproduction with arbitrary terminals (also including a player) is impossible, and it is after purchase etc.

[0008]Generally, when encryption processing was performed, since the data volume became larger than the original data, the problem of the load to a network and the problem of the telex rate accompanying prolonged download remained in delivery through a network as before.

[0009]The purpose of this invention does not interfere with real-time reproduction of contents, and can prevent unjust duplicate and circulation, and there is in providing the distribution method of the real time contents which do not spoil a still more nearly just user's convenience.

[0010]The purpose of this invention can use media other than a network like the Internet for delivery of contents, and there is in providing the distribution method of the real time contents which can solve the problem of the telex rate accompanying the load to a network, or prolonged download.

[0011]

[Means for Solving the Problem]In a distribution method of real time contents made refreshable on a terminal of a user by whom digital contents which need the real time nature of music, an animation, etc. were connected to a network in this invention since said technical problem is solved, Contents enciphered with a predetermined encryption key are delivered to the user side, When using said contents, a user acquires a decode key corresponding to said encryption key through a network, decodes and reproduces said contents using said decode key, and deletes contents and a decode key after this decoding from on a user's terminal.

[0012]Since enciphered delivered contents can already be decoded and reproduced on this user's terminal at the user side according to said composition, Quality real-time reproduction is possible, without reproduction breaking off by change of a zone of a circuit like [at the time of sending contents data via a network as it was]. Although

enciphered contents remain in the user side, since contents after decoding will be deleted, they can prevent unjust duplicate and circulation of contents. If it is a just user, what is necessary will just be to acquire a decode key via a network, and it will become renewable [contents] on arbitrary terminals.

[0013]Since there is no restriction in any way about delivery of enciphered contents and recording media, such as cheap CD-ROM, can also be used, A problem of a telex rate accompanying load to a network at the time of using a computer network like the Internet or prolonged download is solvable.

[0014]Deletion of contents after decoding and reproduction of enciphered contents, and decoding, If a decode key is deleted after performing a constant rate of data in these contents continuously as a unit and completing decoding and reproduction to all the data of contents, unjust duplicate and circulation of contents after decoding can be prevented more powerfully.

[0015]

[Embodiment of the Invention]Hereafter, with reference to drawings, an example of the embodiment of the distribution method of the real time contents of this invention is explained.

[0016]Two or more terminals in which drawing 1 shows the outline composition of the system in this embodiment, one comprises a key center among a figure and 2 comprises a personal computer etc., and 3 are computer networks which connect these arbitrarily. The digital contents which need here the real time nature of music, an animation, etc. which it is going to sell, It shall be enciphered with a suitable encryption key for every contents, shall be delivered in the state where it accumulated in media, such as CD-ROM, at the user side, and shall be prepared for decoding and a refreshable state on the terminal 2.

[0017]Drawing 2 shows the important section composition in said system, and the key center 1 was provided with the decode key providing means 4, and each terminal 2 is provided with the decode key acquisition means 5, contents decoding, reproduction and a deleting means 6, and the decode key deleting means 7. Each of these means are realized by the computer which constitutes the key center 1 and the terminal 2, respectively, and its program.

[0018]The key providing means 4 provides this terminal 2 with the decode key corresponding to the encryption key for every contents via the computer net network 3 according to the demand from the terminal 2.

[0019]The decode key acquisition means 5 realizes encryption communication with the key center 1 via the computer network 3, and acquires a decode key from the key center 1. Including the information which specifies here which key of which key center is required for the message a, the message b is a message containing a decode key.

[0020]Although contents decoding, reproduction, and the deleting means 6 decode and reproduce the contents enciphered using the decode key acquired by the decode key acquisition means 5 and being deleted further, Under the present circumstances, a constant rate of data in these contents is continuously performed for deletion of the contents after decoding and reproduction of the enciphered contents, and decoding as a unit.

[0021]The decode key deleting means 7 is deleted after decoding, reproduction, and deletion to all the data of corresponding contents end the decode key acquired by the decode key acquisition means 5.

[0022]In said composition, if a user orders reproduction of a certain (enciphered) contents in the terminal 2, the decode key acquisition means 5 will start and the message a which specifies which key of which key center the decode key corresponding to said contents is will be sent to the computer network 3. The key center 1 which received the message a via the computer network 3 returns the message b containing a corresponding decode key.

[0023]The decode key acquisition means 5 of the terminal 2 which received the message b via the computer network 3 takes out a decode key from this message b, and sends it to contents decoding, reproduction, and the deleting means 6.

[0024]Contents decoding, reproduction, and the deleting means 6 read a constant rate of first data from the enciphered contents, performs decoding and reproduction using said decode key, and deletes the this decoded data. Next, a constant rate of data following said read data is read, and said same processing is performed. A fixed quantity of data in the enciphered contents is read every like the following, and decoding, reproduction, and deletion are repeated.

[0025]Thus, after decoding, reproduction, and deletion to all the data of contents are completed, the decode key deleting means 7 deletes a decode key.

[0026]

[Effect of the Invention]As explained above, according to this invention, in sale of digital contents which needs real time nature, the reproduction stabilized without reproduction of contents breaking off is attained. If it is a just user, contents are renewable on the arbitrary terminals by which network connection was carried out, and unjust duplicate and circulation of contents can be prevented, securing a just user's convenience.

[0027]Since it can deliver also in the state where it accumulated in the mass media with cheap CD-ROM etc. which do not need to carry out via a network about delivery of the enciphered contents, Great load is applied to a network or a sale of contents anxious about the telex rate accompanying prolonged download which is not is attained.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]The system configuration figure showing an example of the embodiment of the distribution method of the real time contents of this invention

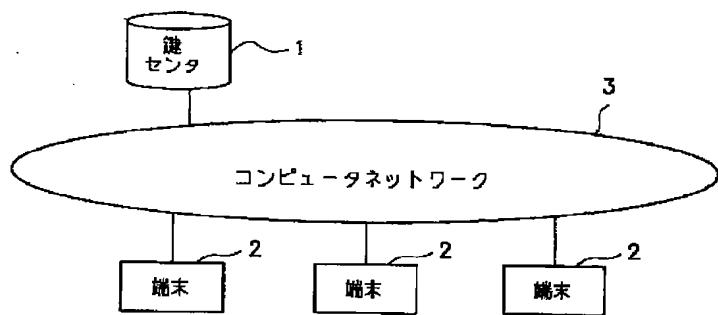
[Drawing 2]The important section lineblock diagram in the system of drawing 1

[Description of Notations]

1: A key center, 2:terminal, 3:computer network, 4:decode key providing means,
5:decode key acquisition means, 6:contents decoding, reproduction and a deleting means,
7 : decode key deleting means.

DRAWINGS

[Drawing 1]



[Drawing 2]

